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STATE PLAN FOR THE

CLEAN AIR MERCURY RULE (CAMR)

May 2007

TABLE OF CONTENTS

SUMMARY

This is the State Plan for the Clean Air Mercury Rule (CAMR) prepared by the Massachusetts Department of Environmental Protection (MassDEP), as required by Section 111(d) of the Clean Air Act Amendments of 1990, 42 U.S.C. § 7411 and 40 Code of Federal Regulations (CFR) Part 60, Subpart B. This State Plan includes amendments to the Massachusetts Air Pollution Control regulations 310 Code of Massachusetts Regulations (CMR) 7.02 "Plan Approval and Emission Limitations" and 310 CMR 7.29 "Emissions Standards for Power Plants" to meet the requirements of CAMR.

INTRODUCTION

On May 18, 2005, under section 111 of the Clean Air Act Amendments (CAAA) of 1990, 42 USC § 7411, the United States Environmental Protection Agency (EPA) published in the Federal Register "Standards of Performance for New and Existing Stationary Sources: Electric Utility Steam Generating Units." This action is referred to as the "Clean Air Mercury Rule" (CAMR) and amends *Standards of Performance for Electric Utility Steam Generating Units for Which Construction is Commenced After September 18, 1978* (40 CFR Part 60, Subpart Da) and establishes *Emission Guidelines and Compliance Times for Coal-Fired Electric Steam Generating Units* (40 CFR Part 60, Subpart HHHH).[1]

There are eight existing Electric Generating Units (EGUs) as defined in 40 CFR 60.24(h)(8) in Massachusetts that are subject to the Emission Guidelines in CAMR (Brayton Point units 1, 2 and 3; Mount Tom unit 1; Salem Harbor units 1, 2 and 3; and Somerset unit 8) and that are regulated under this State Plan.

Section 111(d) of the CAAA and 40 CFR Part 60, Subpart B require states to submit a State Plan for implementing the Emission Guidelines. For states to obtain approval of their State Plan from EPA, the State Plan must include the following:

1. A record of the public hearings on the State Plan, as required by 40 CFR 60.23(d) and (f).

2. Emission standards and compliance schedules, and a demonstration that the emission standards and compliance schedules will result in compliance with the State's annual EGU mercury (Hg) budget for 2010-2017 (the Phase 1 Hg budget, which is 344 tons for Massachusetts) and for 2018 and thereafter (the Phase 2 Hg budget, which is 136 tons for Massachusetts), as required by 40 CFR 60.24(h)(3).

3. Requirements for EGUs to comply with monitoring, recordkeeping and reporting provisions in 40 CFR Part 75 with regard to Hg mass emissions, as required by 40 CFR 60.24(h)(4).

[1] US Environmental Protection Agency, *Standards of Performance for New and Existing Stationary Sources: Electric Utility Steam Generating Units; Final Rule* 70 Federal Register 28606 (May 18, 2005). See also *Revision of December 2000 Clean Air Act Section 112(n) Finding Regarding Electric Utility Steam Generating Units; and Standards of Performance for New and Existing Electric Utility Steam Generating Units: Reconsideration*, 71 Fed. Reg. 33388 (June 9, 2006).

4. A demonstration of the state's legal authority to carry out the State Plan, as required by 40 CFR 60.24(h)(5) and 60.26.

5. An inventory of all EGUs in the state, as required by 40 CFR 60.25(a).

6. An inventory of the Hg emissions from EGUs in the state, as required by 40 CFR 60.25(a).

7. Requirements that ensure monitoring of the status of compliance with the applicable emission standards as required by 40 CFR 60.25(b) and (c).

8. Provisions for annual state progress reports to EPA on implementation of the State Plan, as required by 40 CFR 60.25(e).

This State Plan includes all of the information required under 40 CFR Part 60, Subpart B.

SECTION 1 - RECORD OF PUBLIC HEARINGS

- In conformance with 40 CFR Part 60, Subpart B, MassDEP published public notices in newspapers of general circulation in Massachusetts and held public hearings to solicit comments on the proposed State Plan and proposed amendments to the Air Pollution Control regulations. The public notices were issued at least 30 days before the public hearings to comply with federal law. The public notices included the date, time and location of such hearings. Attached as Appendix A are copies of the public notices.

- A copy of the public notices, the proposed State Plan and proposed amendments to 310 CMR 7.02 and 310 CMR 7.29 were made available on MassDEP's website. Copies also were available at MassDEP's headquarters at One Winter Street, Boston 02108 and in MassDEP Regional Offices.

- Prior to adopting the State Plan and amendments to the Air Pollution Control Regulations to comply with CAMR, MassDEP adopted regulations at 310 CMR 7.29 in 2001 and 2004 to control Hg emissions from coal-fired power plants. A record of public hearings conducted as part of these previous rulemakings is in Appendix B.

- Attached as Appendix C are certifications that the public hearings were held in accordance with the requirements of 40 CFR 60.23.

- Section 10 contains MassDEP's Response to Comments for Proposed Amendments to 310 CMR 7.00 et seq. The Response to Comments document includes a list of those who testified and their organizational affiliation and a brief summary of comments.

SECTION 2 – DEMONSTRATION THAT EMISSION STANDARDS AND COMPLIANCE SCHEDULES WILL RESULT IN COMPLIANCE WITH THE STATE'S HG BUDGET FOR THE APPROPRIATE PERIODS

A. Emission standards and compliance schedules under the Massachusetts Air Pollution Control regulations, 310 CMR 7.29 and 310 CMR 7.02

1. 310 CMR 7.29

On May 11, 2001, MassDEP adopted 310 CMR 7.29, "Emissions Standards for Power Plants," which set initial Hg emissions caps on four existing coal-fired power plants. For background information on the facility-specific Hg caps see in Appendix B the June 2000 Technical Support Document entitled *Background Document and Technical Support for Public Hearings on Proposed Amendments to 310 CMR 7.00 et seq.: 310 CMR 7.29 – Emission Standards for Power Plants* (hereafter referred to as the "June 2000 Background Document"). See also the April 2001, *Summary of Comments and Responses from Public Hearings on the Proposed Regulation, 310 CMR 7.29.*[2]

On June 4, 2004, MassDEP amended 310 CMR 7.29, adopting specific Hg emissions standards and more detailed requirements for calculating Hg emissions caps. For background information on the amendments to 310 CMR 7.29 adding Hg emissions standards, see in Appendix B the October 2003 *Background Document and Technical Support for Public Hearings on Proposed Amendments to 310 CMR 7.00 et seq.: 310 CMR 7.29 – Emission Standards for Power Plants*[3] (hereafter referred to as the "October 2003 Background Document"). See also the May 2004 *Response to Comments on Propose Amendments to 310 CMR 7.29 – Emission Standards for Power Plants*[4] (hereafter referred to as the "May 2004 Response to Comments Document"). Note that in August 2004 a correction was made to the numbering of two sections in the promulgated Hg amendments.

310 CMR 7.29 requires the four affected facilities in Massachusetts to comply with an annual Hg cap starting in October 2006 and Hg emissions standards starting January 1, 2008. The following units that are subject to 310 CMR 7.29's Hg provisions constitute all existing EGUs subject to CAMR: Brayton Point units 1, 2 and 3; Mount Tom unit 1; Salem Harbor units 1, 2 and 3; and Somerset unit 8. For the coal-fired units at the affected facilities, the owners and operators shall:

- As of October 1, 2006, ensure that the total annual Hg emissions from combustion of solid fossil fuel in units subject to 40 CFR Part 72 will not exceed a cap equal to the average

[2] http://www.mass.gov/dep/air/laws/finalrsn.doc and http://www.mass.gov/dep/air/laws/finalrtc.doc and http://www.mass.gov/dep/air/laws/rtcnames.doc
[3] http://www.mass.gov/dep/images/hgtsdx03.doc and http://www.mass.gov/dep/images/hgrevx03.doc or http://www.mass.gov/dep/images/hgtsdx03.pdf and http://www.mass.gov/dep/images/hgrevx03.pdf
[4] http://www.mass.gov/dep/images/hgrtc.doc or http://www.mass.gov/dep/images/hgrtc.pdf

annual emissions based on previous stack test results as required under 310 CMR 7.29(5)(a)3.c. (hereafter referred to as the "7.29 facility Hg cap").[5]

- As of January 1, 2008, comply with at least one of the following Hg emissions standards:
  - A facility average total Hg removal efficiency of 85% or greater, or
  - A facility average total Hg emissions rate of 0.0075 pounds/gigawatt hour (lbs/GWh) or less (hereafter referred to as the "7.29 Phase 1 emissions standards").
- As of October 1, 2012, comply with at least one of the following Hg emissions standards:
  - A facility average total Hg removal efficiency of 95% or greater, or
  - A facility average total Hg emissions rate of 0.0025 lbs/GWh or less (hereafter referred to as the "7.29 Phase 2 emissions standards").

Under 310 CMR 7.29, beginning October 1, 2006, affected facilities are required to conduct emissions testing at least every other calendar quarter to demonstrate compliance with the facility's Hg cap. By January 1, 2008, affected facilities are required to install, certify and operate CEMS to measure Hg emissions from each affected unit to demonstrate compliance with the facility's Hg cap and the emissions standards.

MassDEP amended 310 CMR 7.29 to establish monitoring, recordkeeping, and reporting meeting CAMR's requirements. See Section 9.

MassDEP added the following definitions in 310 CMR 7.29: "alternate Hg designated representative," "automated data acquisition and handling system or DAHS," "mercury continuous emission monitoring system or mercury CEMS," "Hg designated representative," "mercury monitoring system," and "sorbent trap monitoring system."

MassDEP addressed terms used in implementing CAMR by amending 310 CMR 7.29 to specify that the terms used in 40 CFR Part 75 and 40 CFR Part 60 Subpart HHHH shall have the meanings defined in 40 CFR Part 72 and Part 60, respectively, and that the term "permitting authority" shall mean MassDEP, the term "Hg Budget Trading Program" shall mean 310 CMR 7.02 and 7.29, and the term "Hg Budget unit" shall mean an EGU (as defined in 40 CFR 60.24(h)(8)).

In addition, MassDEP hereby specifies that in applying the "Hg Designated Representative For Hg Budget Sources" and "Monitoring and Reporting" requirements in 40 CFR Part 60 Subpart HHHH:

- the term "Hg Budget permit" shall be deemed to refer to a "plan approval under 310 CMR 7.02 or emission control plan approval under 310 CMR 7.29"; and
- references to "Hg Allowance Tracking System account," "Hg allowances," "proceeds of transactions involving Hg allowances," and "40 CFR 60.4151" shall not be applicable since MassDEP is not participating in the Hg trading program.

2. <u>310 CMR 7.02</u>

[5]Salem Harbor Station entered into an Amended Administrative Consent Order with MassDEP requiring compliance with its 7.29 facility Hg cap beginning October 1, 2005.

Existing 310 CMR 7.02 requires all units subject to the CAMR New Source Performance Standard (NSPS) at 40 CFR Part 60 Subpart Da to obtain a plan approval that includes Hg emission limitations at least as stringent as those in 40 CFR Part 60 Subpart Da and to comply with Hg monitoring, recordkeeping and reporting requirements in 40 CFR Part 60 Subpart Da.

MassDEP amended 310 CMR 7.02 to separately specify requirements for EGUs that are and EGUs that are not subject to 310 CMR 7.29, ensuring that total Hg emissions from all EGUs remain within Massachusetts' CAMR Hg budget. MassDEP amended 310 CMR 7.02 to establish monitoring, recordkeeping, and reporting meeting CAMR's requirements for EGUs whose total emissions must remain within Massachusetts' CAMR Hg budget. See Section 9.

MassDEP addressed terms used in implementing CAMR by amending 310 CMR 7.02 to specify that the terms used in 40 CFR Part 75 and 40 CFR Part 60 Subparts Da and HHHH shall have the meanings defined in 40 CFR Part 72 and Part 60, respectively, and that the term "permitting authority" shall mean MassDEP. MassDEP also specified that in implementing 40 CFR Part 60, the term "Hg Budget Trading Program" shall mean 310 CMR 7.02 and 7.29, and the term "Hg Budget unit" shall mean an EGU (as defined in 40 CFR 60.24(h)(8)).

In addition, MassDEP hereby specifies that in applying 40 CFR Part 60 Subpart Da and the "Hg Designated Representative For Hg Budget Sources" and "Monitoring and Reporting" requirements in 40 CFR Part 60 Subpart HHHH:

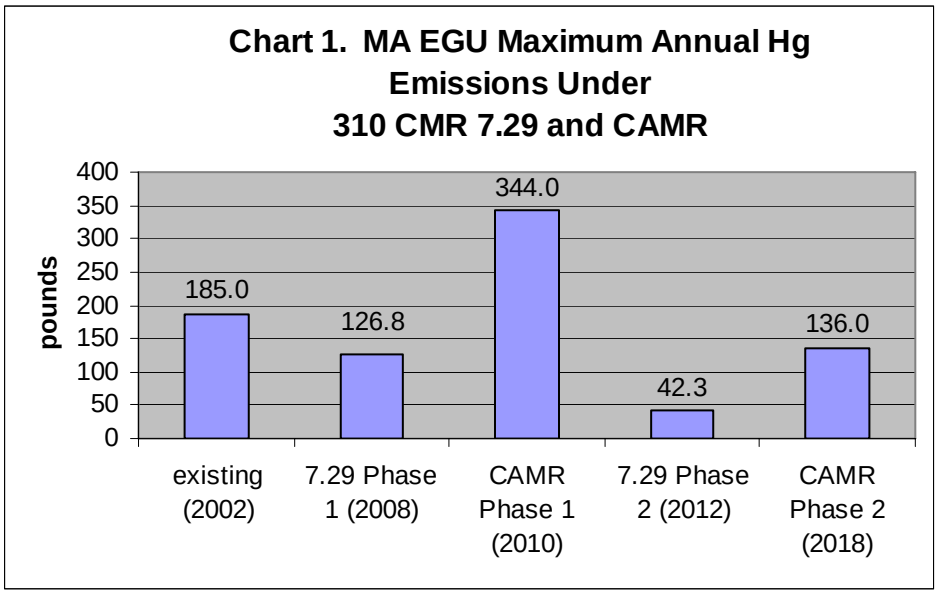
- the term "Hg Budget permit" shall be deemed to refer to a "plan approval under 310 CMR 7.02 or emission control plan approval under 310 CMR 7.29"; and
- references to "Hg Allowance Tracking System account," "Hg allowances," "proceeds of transactions involving Hg allowances," and "40 CFR 60.4151" shall not be applicable since MassDEP is not participating in the Hg trading program.

B. Demonstration that the emissions standards and compliance schedules will result in compliance with the state's Hg budget for the appropriate periods.

1. Existing EGUs

The 7.29 facility Hg caps and 7.29 Phase 1 and 2 emissions standards contained in 310 CMR 7.29(5)(a)3. are the enforceable state mechanisms for insuring that existing EGUs will not exceed the CAMR Phase 1 and 2 Hg budgets. The only existing EGUs in Massachusetts are at affected facilities subject to 310 CMR 7.29.

The 7.29 facility Hg caps and 7.29 Phase 1 and 2 emissions standards are more stringent than the CAMR Phase 1 and 2 Hg budgets and require compliance earlier than the CAMR Phase 1 and 2 Hg budgets. See Chart 1 and the following text for details.



To demonstrate compliance of existing EGUs subject to CAMR with the CAMR Phase 1 Hg budget, Massachusetts is relying on the 7.29 facility Hg cap of 185 pounds. Beginning October 1, 2006, 310 CMR 7.29(5)(a)3.c. limits coal-fired EGUs emissions to "the average…pounds of mercury emitted per million Btu consumed [measured during stack tests in 2001 and 2002] multiplied by the heat input in million Btu averaged over" a representative three calendar-year period. As indicated on page 16 of the October 2003 Background Document, the annual 7.29 facility Hg caps in pounds per year for the existing coal-fired EGUs at the affected facilities are:

Brayton Point Station	146.6
Mount Tom Station	4.1
Salem Harbor Station	21.2
Somerset Station	13.1
Total	185.0

Because the 7.29 facility Hg cap of 185 pounds is lower than the CAMR Phase 1 Hg budget of 344 pounds and took effect October 1, 2006, earlier than the 2010 effective date of the CAMR Phase 1 Hg budget, the 7.29 facility Hg cap constitutes compliance with the CAMR Phase 1 Hg budget and deadlines.[6]

[6] 310 CMR 7.29(6)(a)4. allows any facility with annual Hg emissions of less than 5 pounds, as measured during stack tests in 2001 and 2002, to use early or off-site reductions to demonstrate compliance with the facility's annual mercury cap through September 30, 2012. Mt. Tom Station is the only facility that emitted less than 5 pounds and is therefore eligible to use this provision. Note that since early or off-site reductions cannot be used to demonstrate compliance with the 7.29 Phase 1 emissions standards, the 7.29 Phase 1 emissions standards are an upper bound on the annual mercury that may be emitted. The upper bound, if the 157 MW Mt. Tom unit ran at 105% of full load at the 7.29 Phase 1 emissions limit for all 8760 hours in a year, would be 10.8 pounds of Hg. However, even if Mt. Tom emitted 10.8 pounds, instead of 4.1 pounds, state-wide emissions would be 185+10.8-4.1 = 191.7 pounds, still well below the CAMR Phase 1 Hg Budget of 344 pounds.

As additional evidence to demonstrate compliance of existing EGUs with the CAMR Phase 1 Hg budget, Massachusetts also is relying on the 7.29 Phase 1 emissions standards. Beginning January 1, 2008, 310 CMR 7.29(5)(a)3.e. limits affected facility emissions to the 7.29 Phase 1 emissions standards of 85% capture or 0.0075 lbs/GWh. Charts 1 and 2 on page 26 of the May 2004 Response to Comments show that the quantity of Hg expected to be emitted annually from the existing units subject to the CAMR when the 7.29 Phase 1 emissions standards take effect is no more than 85 pounds if facilities choose to comply with the 85% capture standard and no more than 86 pounds if facilities choose to comply with the 0.0075 lbs/GWh standard. The calculations for compliance with the 0.0075 lbs/GWh standard were based on gigawatt hours generated in 2000.

As a more conservative approach, MassDEP has calculated that, if all facilities (including Somerset unit 8, which is expected to repower or terminate operations by January 1, 2010[7]) were to run at 105% of full load at the 0.0075 lbs/GWh 7.29 Phase 1 emissions standard for all 8760 hours in a year, annual state-wide emissions would be expected to be no more than 126.8 pounds, well below the CAMR Phase 1 Hg budget. See Section 11, which is a spreadsheet demonstrating that 7.29 Phase 1 emissions standards are more stringent than the CAMR Phase 1 Hg budget. In performing this calculation, MassDEP used the maximum hourly gross load listed in record type 535 of all but one unit's electronic data report (EDR) submitted to EPA under 40 CFR Part 75, increased by 5% to account for the possibility that a unit may occasionally run above this load. The remaining unit, Somerset unit 8, reports gross steam load instead of gross electrical load in the EDR; therefore, instead of the EDR load, the engineering capacity supplied by the facility was used in the calculations, increased by 5% as for the other units.

Because 126.8 pounds (as the more conservative scenario) is lower than the CAMR Phase 1 Hg budget of 344 pounds and takes effect January 1, 2008, earlier than the 2010 effective date of the CAMR Phase 1 Hg budget, the 7.29 Phase 1 emissions standards constitute compliance with the CAMR Phase 1 Hg budget and deadlines for existing EGUs.

To demonstrate compliance of existing EGUs with the CAMR Phase 2 Hg budget, Massachusetts is relying on the 7.29 Phase 2 emissions standards. Beginning October 1, 2012, existing 310 CMR 7.29(5)(a)3.f. limits affected facility emissions to the 7.29 Phase 2 emissions standards of 95% capture or 0.0025 lbs/GWh. Charts 1 and 2 on page 26 of the May 2004 Response to Comments show that the quantity of Hg expected to be emitted annually from the coal-fired EGUs when the 7.29 Phase 2 emissions standards take effect is no more than 28 pounds if EGUs choose to comply with the 95% capture standard and no more than 29 pounds if EGUs choose to comply with the 0.0025 lbs/GWh standard. The calculations for compliance with the 0.0025 lbs/GWh standard were based on gigawatt hours generated in 2000.

As a more conservative approach, MassDEP has calculated that, if all facilities (including Somerset unit 8, which is expected to repower or terminate operations by January 1, 2010) were

[7] In addition, 310 CMR 7.29(5)(a)3.e.iii. allows units with an enforceable commitment to terminate operations by January 1, 2010 to use early or off-site reductions to demonstrate compliance through January 1, 2010. Since the CAMR Phase 1 Hg budget does not take effect until 2010, and any unit that utilized this provision would shut down prior to 2010, this provision has no impact on Massachusetts' ability to keep emissions under the CAMR Phase 1 Hg budget.

to run at 105% of full load at the 0.0025 lbs/GWh 7.29 Phase 2 emissions standard for all 8760 hours in a year, annual state-wide emissions would be expected to be no more than 42.3 pounds, well below the CAMR Phase 2 Hg budget. See Section 11, which is a spreadsheet demonstrating that 7.29 Phase 2 emissions standards are more stringent than the CAMR Phase 2 Hg budget. In performing this calculation, MassDEP used the maximum hourly gross load listed in record type 535 of all but one unit's electronic data report (EDR) submitted to EPA under 40 CFR Part 75, increased by 5% to account for the possibility that a unit may occasionally run above this load. The remaining unit, Somerset unit 8, reports gross steam load instead of gross electrical load in the EDR; therefore, instead of the EDR load, the engineering capacity supplied by the facility was used in the calculations, increased by 5% as for the other units.

Because 42.3 pounds (as the more conservative scenario) is lower than the CAMR Phase 2 Hg budget of 136 pounds and takes effect October 1, 2012, earlier than the 2018 effective date of the CAMR Phase 2 Hg budget, the 7.29 Phase 2 emissions standards constitute compliance with the CAMR Phase 2 Hg budget and deadlines for existing EGUs.

Furthermore, while CAMR requires compliance with the CAMR Phase 1 and 2 Hg budgets on a calendar year basis, 310 CMR 7.29's Phase 1 and 2 emissions standards are more stringent since compliance is based on a rolling 12-month average, recalculated monthly.

Last, while CAMR requires compliance based only on vapor phase Hg, 310 CMR 7.29 is more stringent since it requires compliance with the 7.29 facility Hg cap and the 7.29 Phase 1 and 2 emissions standards based on the total of vapor-phase and particulate-bound Hg. Note that while 310 CMR 7.29 requires facilities to report total Hg emissions to MassDEP each January 30 beginning January 30, 2007, CAMR's electronic reporting format begins January 1, 2009 and will only support and require submittal of vapor-phase Hg. Since the above analysis demonstrated compliance with CAMR Phase 1 and 2 Hg budgets based on total Hg emissions, it is clear that compliance is easily demonstrated based on only the subset of vapor-phase Hg emissions.

For the reasons described above, 310 CMR 7.29 is more stringent than CAMR and Massachusetts existing EGUs do not currently, and will not in the future, exceed the CAMR Phase 1 and 2 Hg budgets.

2. <u>EGUs not subject to 310 CMR 7.29, and Hg increases from EGUs subject to 310 CMR 7.29</u>

The requirements in 310 CMR 7.02(3)(o) are the enforceable state mechanism for insuring that EGUs not subject to 310 CMR 7.29, in combination with any Hg increases from EGUs subject to 310 CMR 7.29, will not exceed the CAMR Phase 1 and 2 Hg budgets.

310 CMR 7.02(3)(o) establishes a collective 45 pounds per year Hg emissions set-aside for Hg emissions from all EGUs not subject to 310 CMR 7.29, plus any increase in Hg emissions from EGUs subject to 310 CMR 7.29. The 45 pound set-aside is based on an approximate doubling of cumulative mercury emissions allowed under the 7.29 Phase 2 emissions standards (i.e., 42.3 pounds). This set-aside would allow additional EGU capacity in Massachusetts (either new facilities or increased capacity at existing 7.29 facilities) while limiting future mercury emissions and providing a significant buffer between future emissions and the CAMR Phase 2 budget of 136

pounds. Under a worst-case scenario, the emissions allowed by 310 CMR 7.29 Phase 2 emissions standards for existing EGUs (42.3 pounds) plus emissions allowed by the 310 CMR 7.02(3)(o) set-aside (45 pounds) will not exceed Massachusetts' CAMR Phase 2 Hg budget of 136 pounds. A Hg set-aside of 45 pounds also ensures compliance with Massachusetts' CAMR Phase 1 Hg budget of 344 pounds because the emissions allowed by 310 CMR 7.29 Phase 1 for existing EGUs (126.8 pounds) plus emissions allowed by the 310 CMR 7.02(3)(o) set-aside (45 pounds) will not exceed 344 pounds.

Under 310 CMR 7.02(3)(o)1. (which excludes EGUs at an affected facility under 310 CMR 7.29), MassDEP will include in any Plan Approval issued to an EGU (including a unit that becomes an EGU by, for example, starting to produce electricity for sale) an annual Hg cap allocated to the EGU from the 45 pound Hg emissions set-aside.

Under 310 CMR 7.02(3)(o)2., if either a new EGU is constructed at or an existing EGU undergoes changes that would increase its Hg emissions at an affected facility under 310 CMR 7.29, the facility would be required to apply for a Plan Approval under 310 CMR 7.02(3)(o)2., and any increase in Hg emissions would be subject to the 45 pound Hg set-aside. MassDEP amended 310 CMR 7.02(5)(a) to ensure that EGUs are required to apply for a Plan Approval under 310 CMR 7.02(3)(o) for any increase in Hg emissions, even though for other air contaminants they are only required to apply if emissions of air contaminants increase one ton or more. The quantity of Hg emissions increase triggering 310 CMR 7.02 is different than for other air contaminants, because under CAMR Massachusetts is subject to a Hg emissions cap, and therefore any EGU increasing Hg emissions must apply to receive an allocation from the 45 pound Hg set-aside.

Under 310 CMR 7.02(3)(o)2., no EGU at an affected facility under 310 CMR 7.29 is allowed to make changes that would increase Hg emissions from all fuels utilized above the baseline Hg emissions until a plan approval is obtained that includes an annual cap on Hg emissions from all fuels utilized by EGUs at the affected facility. The Hg cap shall equal, at most, the baseline Hg emissions that MassDEP has specified in Table A of 310 CMR 7.02(3)(o)2. for each existing EGU, plus an amount to cover any increase in Hg emissions above the baseline. Only the increase in Hg emissions will be allocated from the 45 pound Hg set-aside. Hg emissions increases from all EGUs will remain below the Hg set-aside because 310 CMR 7.02(3)(o)3. prohibits MassDEP from issuing a Plan Approval to an EGU if the Hg emissions increases from the EGU combined with the Hg emissions increases from other previously approved EGUs exceeds 45 pounds.

Because 310 CMR 7.02(3)(o) will not allow MassDEP to issue an approval that causes the CAMR Phase 1 or 2 Hg budgets to be exceeded, the 310 CMR 7.02(3)(o) provision constitutes compliance with the CAMR Phase 1 and 2 Hg budget and deadlines.

SECTION 3 – MONITORING, RECORDKEEPING AND REPORTING

Requirements for monitoring, recordkeeping and reporting of Hg mass emissions from EGUs in compliance with 40 CFR Part 75, as required by 40 CFR 60.24(h)(4) and 40 CFR Part 60 Subpart HHHH, are specified in 310 CMR 7.02(3)(o)4. and 310 CMR 7.29(5)(a)3.g., (7)(b), (g) and (h).

SECTION 4 - DEMONSTRATION OF STATE'S LEGAL AUTHORITY

Attached as Appendix D is MassDEP's demonstration that it has legal authority under existing state statutes to carry out the requirements of Section 111(d) of CAAA and 40 CFR Part 60, Subpart B for EGUs.

SECTION 5 - INVENTORY OF EGUs

There only are eight existing coal-fired EGUs in Massachusetts that are subject to the Emission Guidelines under CAMR and are regulated under this State Plan. These are: Brayton Point units 1, 2 and 3 in Somerset; Mount Tom unit 1 in Holyoke; Salem Harbor units 1, 2 and 3 in Salem; and Somerset unit 8 in Somerset.

Table 1 below identifies all large coal-fired boilers and units in Massachusetts that are not covered by 310 CMR 7.29. None of these units meet the definition of EGU under CAMR. One of these locations (University of Massachusetts) has three coal-fired boilers feeding a small (3.9 MW) steam turbine which are being replaced by new non-coal-fired units currently under construction. In order for any of the units in Table 1 to meet the CAMR definition of EGU, the unit would require substantial reconstruction or alteration and physical changes, which would trigger review under MassDEP's 7.02 new source review regulations, and potentially be subject to the CAMR 40 CFR Part 60 Subpart Da New Source Performance Standards. If any unit in Massachusetts becomes an EGU, 310 CMR 7.02(3)(o)1. and (5)(a)12. require such EGU to obtain a plan approval. As an engineering matter, MassDEP notes that it is doubtful that any of the boilers have the physical capacity to supply a 25 MW generator because the steam pressure required would exceed the capabilities of the boiler.

Table 1. Large coal-fired units in Massachusetts not subject to 310 CMR 7.29.

Facility	Coal-fired Units	Location
University of Massachusetts	3 Boilers connected to a steam turbine with a 3.9 MW generator	Amherst
Old Castle	Lime Kiln	Lee
Solutia	Boiler not connected to a generator	Springfield
Riley Research	3 Boilers not connected to a generator	Worcester
St. Gobain	Boiler connected to 2 steam turbines with 2.5 and 3.125 MW generators	Worcester

SECTION 6 - INVENTORY OF HG EMISSIONS FROM EGUs IN MASSACHUSETTS

Total Hg emissions in Massachusetts from existing EGUs (as defined in 40 CFR 60.24(h)(8)) are equivalent to the sum of the four 310 CMR 7.29 facility Hg caps, or 185 pounds. Beginning October 1, 2006, 310 CMR 7.29(5)(a)3.c. limits EGUs' Hg emissions to "the average…pounds of mercury emitted per million Btu consumed [measured during stack tests in 2001 and 2002] multiplied by the heat input in million Btu averaged over" a representative three-calendar-year period. These values, in pounds of Hg per year, are as follows:

Brayton Point Station	146.6
Mount Tom Station	4.1[8]
Salem Harbor Station	21.2
Somerset Station	13.1
Total	185.0

For projections of future year emissions, see Section 11.

SECTION 7 - REQUIREMENTS THAT ENSURE MONITORING OF THE STATUS OF COMPLIANCE WITH THE APPLICABLE EMISSION STANDARDS

40 CFR 60.25(b) and (c) require monitoring of compliance with applicable emissions standards, and making data available to the general public.

MassDEP has included in 310 CMR 7.02(3)(o) and 310 CMR 7.29 certain monitoring, recordkeeping and reporting provisions under 40 CFR Parts 60 and 75. These federal monitoring, recordkeeping and reporting requirements are generally as stringent as 310 CMR 7.29; however, there are provisions in 310 CMR 7.29 that go beyond the requirements of CAMR.

In particular, 310 CMR 7.29 requires affected facilities to report total Hg emissions to MassDEP each January 30, demonstrating compliance with 310 CMR 7.29's total Hg standards, while the electronic data report submitted to EPA by these affected facilities each calendar quarter only requires reporting vapor-phase Hg emissions.

The Hg emissions data reported by each EGU in quarterly electronic data reports are made available to the public on EPA's web site.

SECTION 8 – PROVISIONS FOR ANNUAL STATE PLAN PROGRESS REPORTS TO EPA ON IMPLEMENTATION OF THE STATE PLAN

40 CFR 60.25(e) requires annual state progress reports to EPA on implementation of this State Plan. MassDEP will report to EPA on an annual basis the information specified in 40 CFR 60.25(f); namely:
(1) Enforcement actions initiated against designated facilities during the reporting period, under any emission standard or compliance schedule of the plan.
(2) Identification of the achievement of any increment of progress required by the applicable plan during the reporting period.
(3) Identification of designated facilities that have ceased operation during the reporting period.
(4) Submission of emission inventory data for designated facilities that were not in operation at the time of plan development but began operation during the reporting period.

[8] Please note that mercury emissions from Mount Tom State may exceed 4.1 pounds in 2006 and 2007 since Mount Tom can use off-site reductions to meet the 4.1 pound cap. However, Mount Tom may not use off-site reductions to meet the 7.29 Phase 1 emissions standards, which effectively set an upper bound of 10.8 pounds on the annual mercury that may be emitted beginning in 2008. See footnote 6.

(5) Submission of additional data as necessary to update emission inventory data information or previous progress reports.

SECTION 10 - RESPONSE TO COMMENTS ON PROPOSED AMENDMENTS

On October 19, 2006, MassDEP published a proposed State Plan for complying with the federal Clean Air Mercury Rule (CAMR) that included proposed amendments to the Air Pollution Control regulations, specifically 310 CMR 7.02, Plan Approval and Emission Limitations and 310 CMR 7.29, Emissions Standards for Power Plants.

Pursuant to MGL Chapter 30A, MassDEP held four public hearings and solicited written testimony on the proposed State Plan and regulation amendments. Public notices were published in three newspapers across Massachusetts, and were sent to interested parties. The hearings were held on Monday, November 20, 2006 in Boston, Salem and Lakeville, and on Tuesday, November 21, 2006 in Holyoke.

This document summarizes and responds to major comments that were received during the public comment period. MassDEP appreciates the input from those that testified at the public hearings and submitted written comments into the hearing docket. Comments are grouped according to the following categories:

- Demonstration that existing 7.29 Facility Caps and Emissions Standards are more stringent than the CAMR Phase 1 and 2 Hg Budgets
- Monitoring, Recordkeeping and Reporting
- Providing Compliance Flexibility for Low Emitters
- Definitions
- Why Massachusetts is not joining the national Mercury Budget Trading Program

Comments were received from the following organizations and/or individuals:

Associated Industries of Massachusetts
Clean Water Action
Connecticut River Watershed Council
Alexandra Dawson
Dominion Energy
Salem Harbor Alliance for Reliable Energy
U.S. Environmental Protection Agency, Region 1 New England

Demonstration that existing 7.29 Facility Caps and Emission Standards are more stringent than the CAMR Phase 1 and 2 Hg Budgets

1. Comment: MassDEP's proposed amendments to 310 CMR 7.29 (covering existing units) apply to each "affected facility," as defined in 310 CMR 7.29. In contrast, CAMR covers "electric generating units or EGUs." Given the differences in the definitions of these terms, it is not clear that 7.29 covers the same existing units as CAMR. It also is not clear whether the amendments to 310 CMR 7.02 (covering new units) cover all existing EGUs that might not be covered by 310 CMR 7.29, including any existing units that do not currently qualify as EGUs but that may become EGUs in the future (e.g., by starting to produce electricity for sale). While the amendments to 310 CMR 7.02 covers EGUs as defined under CAMR, there are a number of definitions of terms in CAMR that are necessary for application of the EGU definition and are not included in 310 CMR 7.00, 7.02 or 7.29. The Massachusetts State Plan should be revised to include or reference those definitions. In addition, Massachusetts should either make further revisions to the State Plan to clearly cover all EGUs covered by CAMR or explain how the combination of the amendments to 310 CMR 7.02 and 310 CMR 7.29 will cover all such EGUs. (EPA)

Response: MassDEP has revised the State Plan to more clearly demonstrate that 310 CMR 7.29 covers all existing EGUs subject to CAMR and that 310 CMR 7.02(3)(o) will cover all units that become EGUs and EGUs that increase Hg emissions. MassDEP reviewed and updated its inventory of coal-fired facilities, with particular attention to the definition of "electric generating unit" provided in 40 CFR 60.24(h)(8). This research shows that there only are eight existing units that meet the definition of EGU in CAMR, and that all eight EGUs are covered by 310 CMR 7.29. MassDEP included in Section 5 of this State Plan a list of all large coal-fired boilers and units in Massachusetts that are not covered by 310 CMR 7.29. None of these units currently meet the definition of EGU under CAMR, and in order for any of the units to meet the CAMR definition of EGU, the unit would require substantial reconstruction or alteration and physical changes, which would trigger review under MassDEP's 310 CMR 7.02 new source review regulations potentially including the CAMR 40 CFR Part 60 Subpart Da New Source Performance Standards. If any unit in Massachusetts becomes an EGU, 310 CMR 7.02(3)(o)1. and (5)(a)12. require such EGU to obtain a plan approval.

MassDEP has addressed terms used in implementing CAMR by amending 310 CMR 7.02 and 7.29 to specify that the terms used in 40 CFR Part 75 and 40 CFR Part 60 Subparts Da and HHHH shall have the meanings defined in 40 CFR Part 72 and 40 CFR Part 60, respectively, and that the term "permitting authority" shall mean MassDEP, the term "Hg Budget Trading Program" shall mean 310 CMR 7.02 and 7.29, and the term "Hg Budget unit" shall mean an EGU (as defined in 40 CFR 60.24(h)(8)).

In addition, MassDEP specified (in the State Plan) that in applying 40 CFR Part 60 Subpart Da and the "Hg Designated Representative For Hg Budget Sources" and "Monitoring and Reporting" requirements in 40 CFR Part 60 Subpart HHHH:

- the term "Hg Budget permit" shall be deemed to refer to a "plan approval under 310 CMR 7.02 or emission control plan approval under 310 CMR 7.29"; and

- references to “Hg Allowance Tracking System account,” “Hg allowances,” “proceeds of transactions involving Hg allowances,” and “40 CFR 60.4151” shall not be applicable since MassDEP is not participating in the Hg trading program.

2. Comment: The demonstration that EGUs in Massachusetts cannot emit mercury in excess of the state’s budget in 40 CFR 60.24(h)(3) needs to be refined. For example, the demonstration relies on regulations that appear to impose a percentage emission reduction requirement or an output-based emission rate limit for existing EGUs without actually specifying the units’ mass limits. (EPA)

Response: MassDEP has chosen to demonstrate that its existing 310 CMR 7.29 output-based Hg emission rate limits for existing coal-fired power plants meet the CAMR Hg budget for Massachusetts. In doing so, MassDEP has relied upon the flexibility in 40 CFR 60.24(b)(1), which states “[e]mission standards shall either be based on an allowance system or prescribe allowable rates of emissions except when it is clearly impracticable” and 40 CFR 60.24(g) which states, “[n]othing in this subpart shall be construed to preclude any State or political subdivision thereof from adopting or enforcing (1) emission standards more stringent than emission guidelines specified in subpart C of this part or in applicable guideline documents or (2) compliance schedules requiring final compliance at earlier times than those specified in subpart C or in applicable guideline documents.”

3. Comment: Based on data submitted to EPA’s Clean Air Markets Division by existing EGUs, the nameplate generating capacity and the historical annual heat input figures used in calculations may not represent the maximum potential of the existing sources. (EPA)

Response: EPA correctly notes that “the nameplate generating capacity...figures used in calculations” do “not represent the maximum potential of the existing sources.” The nameplate capacities were taken from an Energy Information Administration (EIA) listing, and, for certain units, are not as high as loads observed during actual operation. MassDEP has recalculated the demonstration using the maximum hourly gross load listed in record type 535 of all but one unit’s electronic data report (EDR) submitted to EPA under 40 CFR Part 75, increased by 5% to account for the possibility that a unit may occasionally run above this load. The remaining unit, Somerset unit 8, reports gross steam load instead of gross electrical load in the EDR; therefore, instead of the EDR load, the engineering capacity supplied by the facility was used in the calculations, increased by 5% as for the other units. These changes increase the estimated Hg emissions from 111.1 to 126.8 pounds for 7.29 Phase 1 and from 37.0 to 42.3 pounds for 7.29 Phase 2, still well below the CAMR Phase 1 and 2 Hg budgets of 344.0 and 136.0 pounds.

EPA correctly notes that the “historical annual heat input figures used in calculations” do “not represent the maximum potential of the existing sources.” 310 CMR 7.29(5)(a)3.e.i. and f.i. require calculation of compliance with the 85% and 95% Hg removal efficiency standards “based on the average historic mercury” emissions, not on maximum heat input, which would allow higher Hg emissions and be contrary to the regulation’s requirement. As presented in the spreadsheet in Section 11 of the State Plan, the Hg emissions resulting from compliance with the 85% and 95% Hg removal efficiency standards are 85 and 28 pounds, respectively. Therefore, this State Plan demonstration is not based on the 85 and 28 pounds of Hg emissions resulting

from the Hg removal efficiency standards, but, rather, is based on the more conservative (i.e., higher) 126.8 and 42.3 pounds of Hg emissions resulting from compliance with the lb/GWh emission rate limits (as explained in the preceding paragraph). Thus, the use of maximum heat input would be inappropriate because the regulation requires use of historic Hg emissions, and, in any case, the demonstration is not based on the percent removal standard.

MassDEP has updated its demonstration in Section 11 of this State Plan to include the revised values as explained above.

4. Comment: An adequate demonstration must also show that mercury emissions from any future electric generating facilities do not result in Massachusetts exceeding its mercury budget. As currently drafted, 310 CMR 7.02(3)(o) does not sufficiently ensure that, in the future, mercury emissions from existing EGUs and new EGUs will always be under the applicable Massachusetts budgets. We suggest Massachusetts modify 310 CMR 7.02(3)(o) to cap the emissions from all potential future EGUs as follows:

"The Department shall only issue a plan approval to a coal-fired Electric Generating Unit (EGU) (as defined under 40 CFR 60.24(h)(8)) if the mercury emissions limited by that plan approval, combined with the mercury emissions limited in previously issued plan approvals for all other coal-fired EGUs pursuant to this section is less than X lbs of mercury per calendar year."

The X represents the set aside Massachusetts would determine for new sources. This will allow the Commonwealth to demonstrate that the worst-case mercury emissions allowed by 310 CMR 7.29 for existing sources plus the set aside is under Massachusetts' mercury budget. (EPA)

Response: MassDEP has added language to 310 CMR 7.02(3)(o) to cap Hg emissions, at 45 pounds per year, from all units that become EGUs or existing EGUs that increase Hg emissions. This cap (in the form of a set aside) is based on an approximate doubling of cumulative mercury emissions allowed under the 7.29 Phase 2 emissions standards (i.e., 42.3 pounds). This set-aside would allow additional EGU capacity in Massachusetts (either new facilities or increased capacity at existing 7.29 facilities) while limiting future mercury emissions and providing a significant buffer between future emissions and the CAMR Phase 2 budget of 136 pounds. Under a worst-case scenario, the emissions allowed by 310 CMR 7.29 Phase 2 for existing units (42.3 pounds) plus emissions allowed by the 310 CMR 7.02(3)(o) Hg set aside (45 pounds) would not exceed Massachusetts' CAMR Phase 2 Hg budget of 136 pounds.

A 45 pound cap on Hg emissions from all EGUs not subject to 310 CMR 7.29, plus any increase in Hg emissions from EGUs subject to 310 CMR 7.29, also ensures compliance with Massachusetts' CAMR Phase 1 Hg budget of 344 pounds because the emissions allowed by 310 CMR 7.29 Phase 1 for existing units (126.8 pounds) plus emissions allowed by the 310 CMR 7.02(3)(o) Hg set aside (45 pounds) would not exceed 344 pounds.

MassDEP also addressed in 310 CMR 7.02(3)(o) and (5)(a) the possibility of an existing 7.29 affected facility increasing its Hg emissions. If a new EGU is constructed at an affected facility, or an existing EGU at an affected facility makes changes that would increase its Hg emissions, the facility would be required to apply for a Plan Approval under 310 CMR 7.02, and any

increase in Hg emissions (above a unit-specific baseline listed in the regulation) would need an allocation from this 45 pound Hg set-aside. This 45 pound Hg set-aside would be reduced commensurate with the allocation.

Monitoring, Recordkeeping and Reporting

5. Comment: Existing Hg CEMS systems are not yet capable of meeting all of the operational requirements currently specified in 40 CFR Part 75, and which is in the process of being revised, but changes will not be issued until 2007, resulting in uncertainty about what specifications for monitoring systems requirements will apply. Given the approaching January 1, 2008 deadline in 310 CMR 7.29 for Hg monitoring at affected facilities, and uncertainty regarding the present capabilities of Hg CEMS systems, MassDEP should permit Hg emission stack testing as a compliance mechanism backstop until the technical issues regarding Hg CEMS systems are resolved and EPA can accept Hg emission monitoring data beginning in January 1, 2009. (Dominion)

Response: In large part thanks to the commenter sharing technical information and test data from field trials of various Hg CEMS systems, including dual train sorbent trap sampling systems, MassDEP is aware of the technical challenges and reliability issues various Hg CEMS vendors are experiencing. There also has been a marked improvement in the design, manufacture, and performance of several Hg CEMS as reflected in recent field trials. MassDEP recognizes that uncertainty exists regarding capabilities of Hg CEMS to meet performance specifications in 40 CFR Part 75, which EPA has proposed to modify.

However, 310 CMR 7.29 gives affected facilities the option of installing a continuous emission monitoring system, an alternative monitoring system, or a sorbent trap monitoring system to meet the requirements of 310 CMR 7.29(5)(a).3.g. If a facility believes there is uncertainty in relying on a Hg CEMS, the facility may choose to use a sorbent trap monitoring system or an alternative system. Therefore, based on this flexibility, MassDEP does not believe that including Hg emission stack testing as a compliance mechanism backstop is necessary.

6. Comment: Under 310 CMR 7.29(5)(g), "Affected Facilities" are required to install mercury CEMS before January 1, 2008. Please note that EPA will not likely be able to receive or quality assure any Hg mass emissions data under 40 CFR Part 75 until January 1, 2009. Under these circumstances Massachusetts may want to consider requiring mercury mass monitoring under 40 CFR Part 75 and 60.4106(b)(1) starting January 1, 2009 and requiring mercury rate monitoring under 40 CFR 60.49Da(p) before January 1, 2009. In addition, EPA notes that 40 CFR 60.49Da(q) and (r) address sorbent traps and required moisture monitoring if the Hg concentration is measured on a dry basis for mercury monitoring systems. Massachusetts should consider adding references to these provisions. (EPA)

Response: MassDEP is aware that EPA will not likely be able to receive or quality assure any Hg mass emissions data under 40 CFR Part 75 until January 1, 2009. For the 2008 calendar year, all affected facilities will report Hg mass emissions data pursuant to 310 CMR 7.29(5)(a)3.g. and 310 CMR 7.29(7). In evaluating Hg monitoring plans submitted by the affected facilities as required by 310 CMR 7.29(5)(a)3.g., MassDEP will work with facilities to

develop appropriate monitoring, recordkeeping and reporting for 2008, when CAMR is not yet in effect.

310 CMR 7.29(5)(a)3.g., (7)(b), (g) and (h) require existing EGUs to comply with all Hg monitoring, recordkeeping, and reporting requirements in 40 CFR Part 75 and 40 CFR Part 60 Subpart HHHH, including provisions regarding sorbent traps and moisture monitoring.

7. Comment: The monitoring provisions of the Massachusetts CAMR State Plan need to be revised to ensure that all EGUs are required to monitor Hg mass emissions in accordance with 40 CFR Part 75 and 40 CFR 60.4170 through 60.4176.

Under 40 CFR 60.24(h)(4), a State Plan must require EGUs to meet the monitoring, reporting, and recordkeeping requirements of 40 CFR Part 75 with regard to mercury mass emissions, whether or not the State adopts EPA's model Hg trading rule. In order to meet this requirement, the State Plan must include or reference the relevant requirements of 40 CFR Part 75 (i.e., the provisions in 40 CFR 60.4170 through 60.4176 of EPA's model rule and certain related definitions in 40 CFR 60.24(h)(8) and 40 CFR 60.4102).

Under 310 CMR 7.29(5)(a)3.g., Massachusetts requires by January 1, 2008, any person who owns, leases, operates or controls an affected facility which combusts solid fossil fuel or ash to install, certify, and operate a mercury monitoring system in accordance with "40 CFR Part 75, 40 CFR 60.49a(p) and 40 CFR 60.4106(b)(1)." This provision has the effect of requiring "affected facilities" to monitor in accordance with 40 CFR 60.4170 through 60.4176 of EPA's model rule. However, the Massachusetts State Plan also needs to state that the terms "Hg designated representative," "continuous emission monitoring system," "operator," and "owner" used in those sections are deemed to refer to "Hg designated representative," "continuous emission monitoring system," "operator," and "owner" as defined in 310 CMR 7.29 and that the terms "Hg Budget unit" and "permitting authority" used in those sections shall be deemed to refer to "unit at an affected facility or EGU" and "the Department" respectively. (EPA)

Response: Requirements for monitoring, recordkeeping and reporting of Hg mass emissions in compliance with 40 CFR Part 75, as required by 40 CFR 60.24(h)(4), and 40 CFR Part 60 Subparts Da and HHHH, are specified in 310 CMR 7.02(3)(o)4. and 310 CMR 7.29(5)(a)3.g., (7)(b), (g) and (h).

Specifically, MassDEP has added language to 310 CMR 7.02(3)(o)4. requiring EGUs to comply with "all mercury monitoring, recordkeeping, and reporting requirements in 40 CFR Part 75, 40 CFR Part 60 Subpart Da and "Hg Designated Representative For Hg Budget Sources" and "Monitoring and Reporting" in 40 CFR Part 60 Subpart HHHH." Similarly, MassDEP has added language to 310 CMR 7.29(7)(g) requiring existing EGUs to "comply with all mercury monitoring, recordkeeping and reporting requirements in 40 CFR Part 75 and "Monitoring and Reporting" in 40 CFR Part 60 Subpart HHHH and any mercury monitoring, recordkeeping and reporting requirements the Department deems necessary and specifies in the facility's ECP or mercury monitoring plan approval."

Note that "Monitoring and Reporting" in 40 CFR Part 60 Subpart HHHH includes 40 CFR 60.4170 through 60.4176. See Response number 1 for a discussion of MassDEP's approach to addressing EPA's comments on definitions.

8. Comment: With regard to both existing and new EGUs, under 40 CFR Part 75, as well as 40 CFR 60.4170 through 60.4176, all submissions to the EPA Administrator related to monitoring and reporting must be made by the Hg designated representative. Moreover, as a practical matter, owners and operators will need to rely on representatives to make these submissions, and the requirements for appointing Hg designated representatives and for certification of all submissions by Hg designated representatives ensure that the owners and operators will be legally bound by the representatives' actions or failures to act. In addition, consistent with 40 CFR Part 75, EPA's electronic emissions tracking system, which receives 40 CFR Part 75 data and will provide quality-assured mercury emissions data or substitute data for non-quality-assured data, is designed around the requirement that Hg designated representatives make all submissions.

For these reasons, the Massachusetts State Plan needs to include or reference the designated representative requirements of 40 CFR 60.4110 through 60.4114 of EPA's model rule. If these provisions are referenced in the State Plan, the State Plan also needs to state that the terms "Hg designated representative," "operator," and "owner" used in those sections are deemed to refer to "Hg designated representative," "operator," and "owner" as defined in 310 CMR 7.29 (revised as discussed in the comments on definitions) and that the terms "Hg Budget unit," "Hg Budget source," "Hg Budget Trading Program," "Hg Budget permit," "permitting authority" used in those sections are deemed to refer to "unit at an affected facility or EGU," "an affected facility or a facility that includes an EGU," "310 CMR 7.02 and 7.29," "plan under 310 CMR 7.02," and "the Department" respectively. In addition, the Massachusetts State Plan could state that the references in 40 CFR 60.4110 through 60.4114 to "Hg Allowance Tracking System account," "Hg allowances," "proceeds of transactions involving Hg allowances," and "60.4151 and 60.4174" are not applicable under the State Plan. (EPA)

Response: Requirements to select a Hg Designated Representative in compliance with 40 CFR Part 60 Subpart HHHH are specified in 310 CMR 7.02(3)(o)4. and 310 CMR 7.29(7)(h).

Specifically, MassDEP has added language to 310 CMR 7.02(3)(o)4. requiring EGUs to comply with "all mercury monitoring, recordkeeping, and reporting requirements in … "Hg Designated Representative For Hg Budget Sources" … in 40 CFR Part 60 Subpart HHHH." Similarly, MassDEP has added language to 310 CMR 7.29(7)(h) requiring existing EGUs to "select a Hg Designated Representative for each affected facility… pursuant to the requirements of "Hg Designated Representative For Hg Budget Sources" in 40 CFR Part 60 Subpart HHHH."

Note that "Hg Designated Representative For Hg Budget Sources" in 40 CFR Part 60 Subpart HHHH includes 40 CFR 60.4110 through 60.4114. See Response number 13 for a discussion of MassDEP's approach to addressing EPA's comments on definitions.

9. Comment: The reference to "40 CFR 60.49a(p)" should read "40 CFR 60.49Da(p)." (EPA)

Response: MassDEP has removed references to 40 CFR Part 60 Subpart Da from 310 CMR 7.29, because if an EGU at an affected facility under 310 CMR 7.29 is subject to 40 CFR Part 60 Subpart Da, it would be required to apply for a Plan Approval under 310 CMR 7.02, not 7.29. Therefore, the comment is moot.

10. Comment: As discussed in MassDEP's Background Document for these proposed amendments, recent field demonstrations at several facilities supervised by joint EPA and industry research groups have established that a "sorbent trap monitoring system," can provide mercury emissions data as accurate as presently available mercury CEMS systems. MassDEP is proposing the use of sorbent traps as a monitoring system option, using the monitoring protocol contained in regulations already adopted and approved by EPA in CAMR. Dominion strongly supports these proposed changes and wishes to recognize MassDEP's staff efforts to research and confirm this method as an acceptable monitoring alternative. (Dominion, Associated Industries of Massachusetts, and Salem Harbor Alliance for Reliable Energy)

Response: MassDEP agrees with the commenters. The final regulation incorporates the definition of sorbent trap monitoring system from 40 CFR 72.2(7) for consistency, and provides the option of utilizing sorbent trap monitoring systems for Hg emissions monitoring compliance.

Providing Compliance Flexibility for Low Emitters

11. Comment: In section (D)(3) of the "Background Information and Technical Support Document for Proposed Amendments to 310 CMR 7.00 et seq." of the Massachusetts State Plan, Massachusetts states its intent not to adopt the low mass emissions excepted monitoring methodology (i.e., Hg LME provisions) under 40 CFR 75.81(b). However, under 310 CMR 7.29(5)(a)3.g.iv, units with an enforceable commitment to terminate operation by January 1, 2010 and that qualify for Hg LME monitoring under 40 CFR 75.81(b) can choose between "quarterly stack testing and a mercury monitoring system" to document mercury emissions. It is unclear what these two alternatives require and whether either of them would allow the use of Hg LME monitoring. For example, it is not clear whether the definition of "mercury monitoring system" in 310 CMR 7.29 includes Hg LME monitoring. (EPA)

Response: To improve clarity for units with an enforceable commitment to terminate operations by January 1, 2010, MassDEP is separately specifying the requirements that apply in 2008 from those that apply in 2009, since CAMR is not in effect in 2008, but is in effect in 2009. In short, once CAMR takes effect in 2009, the low mass emissions excepted monitoring methodology under 40 CFR 75.81(b) must be followed with at least a calendar quarter retesting frequency by qualifying units (i.e., those with an enforceable commitment to terminate operations by January 1, 2010) choosing to not install a Hg monitoring system.

MassDEP has modified the definition of "Mercury Monitoring System" in 310 CMR 7.29 to clearly exclude the mercury low mass emissions excepted monitoring methodology.

12. Comment: Under 40 CFR Part 75 and 40 CFR 60.4170 through 60.4176, an EGU cannot use any monitoring methodology that is an alternative for the methodologies set forth in those regulations unless EPA approves a petition to use that alternative monitoring. The

Massachusetts State Plan needs to be revised to require that any unit with an enforceable commitment to terminate operation by January 1, 2010 must monitor in accordance with 40 CFR Part 75 starting January 1, 2009 unless a petition is submitted and approved under 40 CFR 60.4175. (EPA)

Response: All affected facilities subject to CAMR (not just those with an enforceable commitment to terminate operations by January 1, 2010) must comply with 40 CFR Part 75 and the 40 CFR 60.4175 petition provisions contained in 40 CFR Part 60 Subpart HHHH (see 310 CMR 7.02(3)(o)4. and 310 CMR 7.29(5)(a)3.g., (7)(b), (g) and (h)). However, MassDEP notes that it is not necessary for units with an enforceable commitment to terminate operations by January 1, 2010 to petition to conduct retests every calendar quarter, because 40 CFR 75.81(d)(4)(i), (ii) and (iii) merely limit the latest date at which a retest must occur, and do not prohibit more frequent retests, e.g., quarterly as required by 310 CMR 7.29(5)(a)3.g.iv.

In addition, although Massachusetts' State Plan already required compliance with 40 CFR Part 75 beginning January 1, 2009 (see 310 CMR 7.29(7)(b)1.a.), MassDEP has added parallel language to the following paragraph (310 CMR 7.29(7)(b)1.b.) indicating the final date (i.e., December 31, 2008) that non-Part 75 calculations can be used to report Hg emissions based on stack tests.

Definitions

13. Comment: the Massachusetts CAMR State Plan needs to be revised to include or reference additional definitions of terms and to ensure that all the necessary definitions apply to the provisions applicable to all EGUs.

Currently, the definitions in 310 CMR 7.00 apply to 310 CMR 7.29, and additional terms are defined in 310 CMR 7.29(2). If a term is defined both in 310 CMR 7.00 and in 310 CMR 7.29(2), the definition in 310 CMR 7.29(2) applies for the purposes of 310 CMR 7.29. However, several additional terms not defined in either 310 CMR 7.00 or 7.29 need to be adopted and need to be made applicable to all EGUs (not just "affected facilities"). Massachusetts needs to revise the State Plan to include or reference the necessary definitions from 40 CFR 60.24(h)(8) and 40 CFR 60.4102 and make the definitions (and the provisions in which they are used) applicable to all EGUs. (EPA)

Response: See Response number 1. In addition, MassDEP has added definitions to 310 CMR 7.29(2) of certain terms that are used in 310 CMR 7.29 (i.e., Alternate Hg Designated Representative, Automated DAHS, Hg Designated Representative, Mercury CEMS and Sorbent Trap Monitoring System), paralleling the definition in 40 CFR Part 60 and/or 72. MassDEP, however, did not add a number of definitions in 40 CFR 60.24(h)(8) and/or 40 CFR 60.4102 where the definition conflicts with an existing definition in 310 CMR 7.00 that has the same meaning and affect as the definitions included in 40 CFR 60.24(h)(8) or 40 CFR 60.4102 (e.g., operator, owner and submit).

14. Comment: With regard to the applicability provisions of the State Plan, additional definitions of terms in the EGU definition (or of terms used in definitions of terms in the EGU

definition) need to be added to or referenced in the State Plan. The definitions that need to be added or referenced are the definitions in 40 CFR 60.24(h) for: "Boiler," "Bottoming-cycle cogeneration unit," "Coal," "Coal-derived fuel," "Coal-fired," "Cogeneration unit," "Combustion turbine," "Generator," "Maximum design heat input," "Nameplate capacity," "Potential electrical output capacity," "Sequential use of energy," "Topping-cycle cogeneration unit," "Total energy input," "Total energy output," "Unit," "Useful power," "Useful thermal energy, and "Utility power distribution system." (EPA)

Response: See Response number 1.

15. Comment: With regard to the monitoring, reporting, and recordkeeping provisions of the State Plan and the Hg designated representative provisions, additional definitions of terms used in those provisions need to be added to or referenced in the State Plan. The definitions that need to be added or referenced are the definitions in 40 CFR 60.4102 for: "Automated data acquisition and handling system or DAHS," "Commence commercial operation," "Common stack," "Continuous emission monitoring system or CEMS," "Heat input," "Heat input rate," "Hg designated representative," "Monitoring system," "Owner," "Operator," "Reference method," "Repowered," "Submit or serve," "Unit operating day," and "Unit operating hour or hour of unit operation." (EPA)

Response: See Response number 13.

Why Massachusetts Is Not Joining the National Mercury Budget Trading Program

16. Comment: We are pleased to support MassDEP's decision to move forward with the Clean Air Mercury Rule without mercury trading in the final regulation. MassDEP has demonstrated an awareness of the major public health risks to children, fetuses, and the ecological effects of Hg deposition. Ecological effect studies of Hg hot spots in Massachusetts and Florida show that typically half the mercury comes from local sources, and field studies in the Florida Everglades show dramatic decreases in Hg deposition after controls were installed on incinerators in the region. Allowing Hg trading would not reduce deposition. In some hot spots it could actually increase deposition in some overburdened areas. We believe it's entirely unacceptable to create such sacrifice zones in communities. This pollutant could especially affect low-income communities given where many hot spots are located. We applaud DEP for not moving forward with mercury trading. (Private Citizen, Environmental and Health Advocacy Groups)

Response: MassDEP agrees with the commenters.